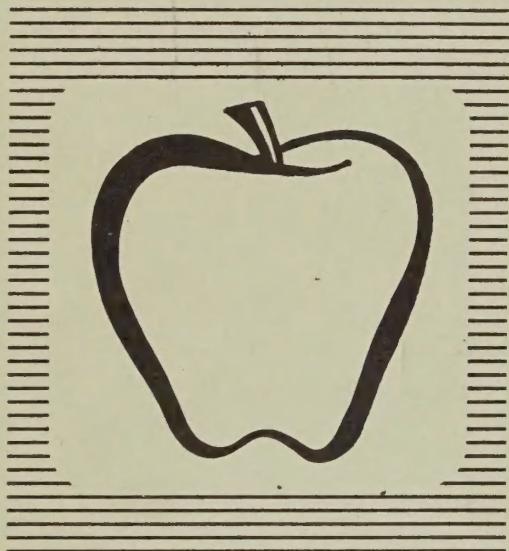


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# A SUMMARY OF THE APPLE MARKETING REPORT

*A Team Study*

UNITED STATES  
DEPARTMENT  
OF AGRICULTURE

**United States  
Department of  
Agriculture**



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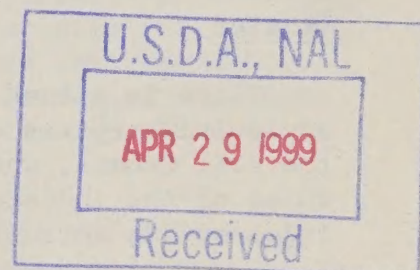


## INTRODUCTION

In January of 1972, Secretary of Agriculture Earl L. Butz established a special team to study apple marketing problems and to recommend action that would improve growers' net income. The team consulted extensively with members of the apple industry and representatives of industry organizations before making recommendations. In addition, the team also drew upon the expertise and knowledge of personnel of the land grant colleges and other universities, State experiment stations, State extension services, and State Departments of Agriculture.

This report represents a summary of the findings of the marketing team. The full report entitled "Apple Marketing Report--A Team Study" is available from the Publications Division, Office of Information, U.S. Department of Agriculture, Washington, D.C. 20250.

It is hoped that this report will elicit response from all segments of the industry--growers, packers, processors, apple marketing experts, State and Federal officials, and the general public. The report is divided into chapters based on the problem areas of the apple industry--supply, quality, marketing efficiency, domestic demand, and foreign trade.



# SUPPLY

## Introduction

In the fall of 1971 an estimated 6.8 million bushels of apples were not harvested, including 3.0 million bushels in New York, primarily in western New York. Reasons given for this economic abandonment were lack of a processing market and low prices. The 1971-72 marketing season was also the third consecutive season in which prices for both fresh and processing apples were depressed. Many producers feel this is a direct result of overproduction.

During this period, many growers have been unable to recover their direct costs of production and harvesting, and as a result have been forced to operate by depleting their equity and investment.

As a result of discussion with the apple industry, six problem areas were delineated concerning apple production. These areas, supply management, old trees, seasonal harvest labor, financial management, orchard expansion, and apple juice, will be discussed in the sections that follow.

## Supply Management

### Problem

There is a lack of a coordinated approach to industry supply problems. The apple industry was composed of 21,290 commercial growers in 1969 according to the U.S. Census, whose individual and regional interests often conflict with those of the industry. This makes it difficult to even discuss objectively any industrywide activities attempting to influence supply and quality.

Apple producers are small in size and compete with one another in selling their crops. Growers are basically price takers when dealing with processors and shippers, and packers are in a similar position when dealing with large retail buyers. No one grower or shipper is large enough to substantially increase his income by withholding apples from the marketplace. On the other hand, often the easiest way to increase returns is to plant more trees.

In discussions with the apple industry, interest in coordinating the activities of producers was expressed in several ways. These suggestions were either geared toward regulating supply or toward increasing demand. They included Federal marketing orders, direct Government supply control, developing reliable production outlets, market expansion schemes or a do-nothing "let nature take its course" philosophy.

### Recommendations

1. The Agricultural Marketing Agreement Act of 1937 needs to be amended to include all producing areas under provisions for fresh apples and apples for processing.



2. The team is neutral on the use of a Federal marketing order as a supply control mechanism. If a Federal marketing order were used as a supply control device, it is recommended that it be national in scope and include both fresh and processing apples. The USDA should stand ready to assist the apple industry with a Federal marketing order if so desired.

3. Direct governmental supply control programs such as marketing quotas or price supports are not recommended by the team.

4. Growers should develop firm long-term markets for their apples so they are not so vulnerable at harvest. This can be done through cooperatives, vertical integration, bargaining associations, long-term contracts, etc. The USDA should provide economic and technical assistance. Of special interest in recent years is the emergence of joint ventures between corporations and farmer cooperatives.

## Old Trees

### Problem

There is continued production of outdated varieties and poor quality apples on aged trees. Production from many of the old varieties is not readily accepted in the market and prices must be cut to obtain consumer acceptance. In addition, there is a marked tendency to produce poorer color and smaller size fruit on the inside of older trees. These old trees are larger when mature than the newer plantings on dwarfing root-stocks. Their removal and possible replacement with size-controlled trees is essential for the development and adoption of new orchard technology, particularly mechanical harvesting.

The 1969 Census of Agriculture indicates that a total of 6,800,639 trees, or 21.3 percent of all apples trees in the primary apple-producing States, are 22 years of age or older. Probably very few of those planted during the 1940-49 period would or should be drawn into a tree removal program, but a very large proportion of those planted in 1939 and prior years probably should be removed.

The industry in the East and Central United States particularly feels that some form of governmental inducement to assist in the removal of older trees and poorly marketable varieties would help the industry adjust to changing production technology and market requirements.

A tree removal program would have considerably different effects and participation in different areas. In the States of Washington and North Carolina, for instance, there are few old trees. However, in California, Michigan, New York, and the Appalachian producing areas, there are substantial numbers of very old trees, including almost one-quarter over 30 years old.

### Recommendations

A strong educational program with growers is needed to evaluate their individual orchard blocks and to encourage voluntary removal where indicated for



the growers' own economic benefit. This program could be conducted by the respective State Cooperative Extension Services with leadership from the Federal Extension Service.

Consideration also should be given to a tree removal program. Such a program would help to accelerate the removal of outdated varieties, old standard trees producing poor quality fruit, and trees serving only as hosts for disease and insects. The program could be developed under title VIII of the Agricultural Act of 1970 and would be administered by the Agricultural Stabilization and Conservation Service (ASCS). The team recommends that the program be developed on a grower bid basis to provide maximum incentive for evaluating the profitability of specific orchard blocks.

### Seasonal Harvest Labor

#### Problem

It is becoming increasingly difficult to obtain competent seasonal harvest labor in the apple industry.

Current apple production techniques require a heavy input of harvest labor (55%) in relation to total crop labor requirements. The requirements per acre are not expected to change significantly by 1975.

With apples, migrants contribute a significant proportion of the harvest work force, and under the current organization of some farms, migrants perform perhaps the most crucial role in the production process by moving as they do to fill critical and fluctuating seasonal labor demands. However, present-day social and political forces are pushing for a termination of the current type of migratory farm labor system. The challenge to the apple industry is to develop a year-round work pattern for employees through altering crop labor requirements, mechanization during peak labor periods, and developing labor techniques to utilize nonfarm workers, housewives, and students during the remaining peak labor periods.

The labor problem, which overrides all others, is the threat of harvesttime strikes and secondary boycotts by labor organizers. With no ground rules established in legislation for the organizing of agricultural employees, producers are fearful of the effects of a harvest strike or boycott on their financial solvency. With very high fixed costs in the annual production of an apple crop, such an action would force financial insolvency on a high proportion of growers in a single year.

#### Recommendations

1. There is a need for labor legislation that would provide ground rules for collective bargaining between farmworkers and growers.

2. Increased research emphasis should be provided by ARS and Cooperative State Research Service (CSRS) on production and harvest methods that will



distribute the annual labor requirements for apple production more evenly during the year. This would include expansion of the harvest season, development of improved dwarfing rootstocks, harvest mechanization, etc. ✓

3. Develop extension programs with workers and employees on farm labor management. For employers, particular emphasis needs to be placed on farm adjustment to provide year-round employment and instruction in how to recruit, supervise, and understand the needs of local seasonal employees and migrants.

## Financial Management

### Problem

Low apple prices during the past three years have forced many growers into financial difficulty. The nature of apple production requires large amounts of annual expenditures for production. Updating orchard blocks with new varieties and rootstocks requires substantial capital outlays with no return for 5 to 7 years. The normal pattern for the industry has been self-financing by growers, or, in the case of some fresh fruit areas, advances by sales agencies for annual production purposes. With several successive poor income years and the accelerating pace towards larger productive units, producers are being forced to finance more of their operations from borrowed funds. Many of these growers are not well versed in financial management and the preparation of appropriate statements and budgets to obtain credit from financial institutions. Their expressions of concern have motivated requests for some form of emergency financial aid.

### Recommendations

Through a joint Federal-State extension effort with the apple industry:

1. Develop an apple producer management educational effort through the Cooperative Extension Service to provide intensive educational programs with producers in the area of financial management, as well as overall management techniques and analysis as a basis for self-improvement.

2. Encourage Cooperative Extension Service efforts to work with the credit agencies to enable them to better understand the credit needs of apple producers and, therefore, fit loan requirements and repayment programs more correctly with the needs.

## Orchard Expansion

### Tax Laws

Problem.--Although the apple industry is already overproducing, continual expansion can occur and is occurring as a result of noneconomic income tax inducements to offset nonfarm ordinary income and convert it to capital gains.

Recommendation.--Although it does not appear to be a serious problem at the moment, the industry should examine and discuss the pros and cons of including apples under section 278 of the IRS code. The present industry benefits tax-wise and accounting-wise by being excluded from these provisions. Citrus and almond growers did not react until outside investors had helped create a substantial oversupply and it was already too late to remedy the situation.

### Bureau of Reclamation Projects

Problem.--Frequently there is an uneconomic inducement for orchard expansion in Bureau of Reclamation projects.

The apple industry over the past 20 years has undergone a gradual decline in acreage along with a major shift in relative importance of production regions from East to West. While the Eastern and Central regions have reduced tree numbers, the West has expanded. In the late 1960's, all areas expanded tree numbers, but the West's expansion has been at a much more rapid rate. Part of the economic inducement for the expansion in the West can be attributed to highly favorable water rates. These rates are provided during the orchard development period by means of delaying the annual farm assessment for waterworks up to 10 years. This provides a substantial subsidy to new apple and other tree fruit plantings, especially when combined with the Federal assistance and low interest loans for the major water project itself.

### Recommendations

Recognizing the interagency differences involved, the Secretary of Agriculture should utilize his position on the Water Resources Council to ensure that adequate longrun evaluation is made of the agricultural aspects of Bureau of Reclamation projects. This should include not only a more realistic evaluation of the local area impact, but also the economic impact on other producing area.

## Apple Juice

### Problem

The apple industry has not been able to capitalize on expanding demand for apple juice. Per capita consumption of apple juice increased from 1.2 pounds per capita in 1960 to nearly 4.0 pounds in 1971. In 1961, 728 million pounds of apples were utilized for juice; in 1970, only 1,200 million pounds went into juice. A major portion of the increased consumption has come from juice imports. Slightly more than half of these imports in recent years have gone into wine production.

Traditionally, the apple juice market is considered the "market of last resort" for a producer's apples. As such, it provides a floor price for fresh market and processing apples. Because of these characteristics, producers have

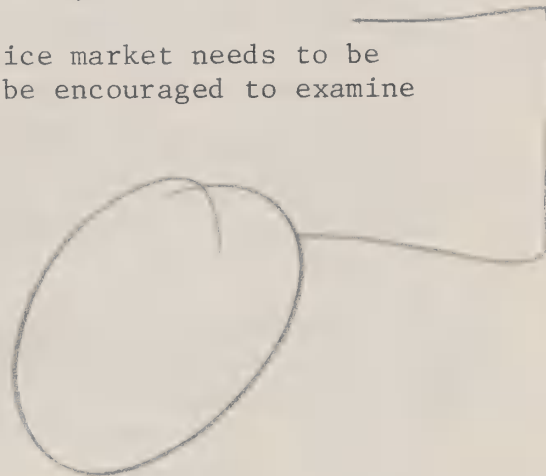


not critically evaluated the future potential of the apple juice market, particularly for wine, and the adjustments that might be made in production and harvesting practices to produce directly for the market, rather than continuing the juice market indefinitely as a tertiary market.

### Recommendations

1. Research efforts are needed by the industry as well as ARS, ERS, and CSRS on the market potential for apple juice. If this market continues to grow, an examination will be needed of optimum characteristics for juice apples and an evaluation of production practices to achieve volume where finish, as for the fresh market, and size, as for the processing market, are not critical.

2. The team feels that the potential of the juice market needs to be evaluated. Producers and research personnel should be encouraged to examine the economic feasibility of producing juice apples.





# QUALITY

## Introduction

This section looks at quality--one of the most serious problems of the apple industry--from two points of view: (1) quality and quality maintenance and (2) U.S. grades and standards.

## Quality Maintenance

A basic concern of the industry is an excess of poor or low quality apples grown and being marketed--both for fresh and processing uses.

The demand for high quality apples frequently is not being satisfied. ✓ Too much fruit of low quality or poor condition is placed on the fresh market and reaches consumers. A recent USDA study showed that 28 percent of customers sampled were disappointed in the apples they purchased during the year. Consumers are more discriminating, want quality, and are willing to pay a reasonable price for it.

Quality in apples is a many-faceted complex of problems. Four main quality and quality maintenance problems are mentioned separately along with recommendations for improvement, they are as follows: (1) maturity; (2) bruising, decay and other deterioration; (3) quality segregation and refrigerated storage; and (4) quality packout.

### Maturity

Both immaturity and overmaturity are serious problems in many areas. Harvesting apples during the optimum period (often only 10-12 days or less if long storage is desired), is usually impossible because there is no single index for determining optimum harvest maturity.

### Bruising, Decay and Other Deterioration

Bruising and other damage and deterioration rate high as serious problems because they cause apples to be out of grade, hurt sales, and evoke consumer dissatisfaction. Studies in retail stores have shown that about one-third of the apples offered for sale are bruised so badly that their appearance and quality are materially impaired.

Most bruising and mechanical injury result from careless handling and poorly designed equipment where fruit is dropped or subjected to pressure. Apples are not hardware; yet poorly trained and supervised labor, whether on a harvesting crew, in a warehouse, or in a retail store, will damage fruit. Managers at all levels must be more quality conscious if bruising is to be minimized.

Decay is now less of a problem, particularly in the Northwest where post-harvest fungicide treatments are widely used. Increased preharvest or post-harvest use of new more effective fungicides, such as benomyl, should further reduce losses by decay.

### Quality Segregation and Refrigerated Storage

Frequently apples with different keeping qualities are mixed during harvest or at the packing plant. As a result much fruit is stored when it has little or no potential storage life or is stored too long. Coupled with this is under-utilization of available information on the value of refrigeration and storage procedures, as well as an actual shortage of storage capacity in some regions.

### Quality Packout

Apples packed for fresh market from orchard-run fruit of low quality are not likely to be profitable. Since storage, grading, and packing are expensive, a warehouse must have a good packout of better grades to be an efficient operation.

Growers can improve their average returns by being more conscious of apple quality. Top quality fruit costs less to harvest, store, grade and pack, while returning significantly more money. Low quality fruit--which often comes from large older trees--may not return production costs.

### Recommendations

1. Research on Maturity Indices--Objective methods and indices for determining maturity and separating degrees of ripeness need to be developed for commercially important varieties on a regional basis. (Agricultural Research Service (ARS), AMS, and State experiment stations).

2. National Apple Maturity Committee--A National Apple Maturity Committee should be established--to act in an advisory capacity--to evaluate current or new objective indices of maturity and methods of predicting proper harvest dates. Representatives from USDA (AMS and ARS), State experiment stations, and State departments of agriculture should be included.

3. Extension--The USDA (ERS and ARS) State colleges, and State departments of agriculture should increase educational programs to make greater use of existing information on prevention of bruising, decay, and other fruit deterioration and fruit quality and quality maintenance. State colleges should develop guidelines to assist growers in determining when a variety or block of fruit in an orchard becomes unprofitable.

4. Sorting Equipment--There is a need to develop and evaluate equipment to detect, grade, and segregate poor-condition apples. (ARS and State experiment stations).

5. Retail Handling--Studies of apple merchandising and handling practices are needed in supermarkets to determine shelf life, turnover, and rate of deterioration under different holding conditions. (ARS, Economic Research Service (ERS)).

6. Industry--(a) Growers must place more emphasis on producing a crop with a large proportion of high quality apples and harvesting with greater care. This can be accomplished through utilization of improved cultural practices, better training, and stricter supervision of harvesting and handling labor. State extension workers can assist growers.

(b) Growers should evaluate and segregate blocks of fruit for fresh and processing utilization as early as possible to aid in orderly planning. Growers can divert more fruit directly to processors and avoid storing low quality fruit for fresh market packing.

7. Packing and Handling Facilities--The USDA (ARS, ERS, CSRS), land grant colleges, and industry should conduct research on the operation and design of packing plants and handling systems to improve packout and reduce operating costs.

#### Grades and Standards

Another basic concern of the industry is the U.S. Standards for Grades of Apples. These standards are the responsibility of the Fruit and Vegetable Division of the Agricultural Marketing Service (AMS) in cooperation with the apple industry.

The standards provide a means of classifying the entire range of product quality; their use, and an official USDA inspection and grading service, is voluntary. Most apple packers use the standards and inspection for quality control in packing to meet wholesale buyer requirements to enable appropriate labeling for benefit of all consumers. At present 13 States have their own grades for fresh apples. These grades are similar to USDA grades, but there are variations in some requirements which lead to confusion in trading.

Many people who attended the regional meetings commented that the U.S. standards for apples are obsolete and should be changed to: (1) make condition part of grade, e.g., Canadian apple standards; (2) lower color requirements; (3) eliminate the U.S. No. 1 grade which is seldom used; and (4) make additional changes to update and clarify the standards. These changes should improve the condition of apples at retail and possibly increase demand.

#### Recommendations

1. U.S. Grades and Standards--There is a need to determine the desirability of revising the U.S. fresh apple standards to better control quality. The team recommends that changes be made in the following areas:



(a) Make condition part of grade by deleting Section 51.310 in the standards. With this change, decay, breakdown, and other deterioration on apples would be scored against the grade.

(b) Eliminate the U.S. No. 1 grade and other lower grades that are rarely used.

(c) Review the color requirement section and lower color requirements for red and red-striped varieties by 10 percent for Extra Fancy and Fancy grades.

(d) Make additional changes to update and clarify the standards.

2. Processing Grades and Standards--The USDA (AMS), in cooperation with industry, should develop improved quality standards for apples for processing and processed apples, in particular apple juice.

3. Maturity and Ripeness Indices--When accurate methods and indices are developed for measuring maturity and ripeness, the U.S. grades for apples should be revised to require fruit at shipping point to be mature, but no more advanced in firmness than firm ripe. (Canadian apple standards require firm and firm-ripe maturity at time of shipment--riper fruit is classed as "local maturity" and is sold to local or nearby markets).

4. Controlled Atmosphere (CA) Storage Condition Standards--The USDA (AMS) in cooperation with industry should determine the desirability for establishing minimum national CA condition standards.

5. State Grades--There is need for legislation in 13 States that would eliminate State grades for apples to lessen confusion in trading.

## MARKETING EFFICIENCY

### Pricing

#### Problems

Representatives of the apple industry in all production areas expressed concern over the low level of prices, especially during the past 3 years, and also over having to sell apples to buyers that are apparently larger and more concentrated than are apple growers. It was also pointed out that apples are a perishable agricultural crop that generally have to be marketed during a given season. Prices established in the market reflect supply-and-demand conditions and for a given season may bear little or no relationship to the grower's cost of production.

Growers producing for the fresh market were especially interested in how to get more "clout" in dealing with larger and more concentrated buyers. The retail markup on apples was of major concern. Growers feel that retail margins are too large, that they have increased in recent years, and as a result have forced the in-store price of apples up to the point where it is seriously inhibiting consumer purchases. It was also felt that the percentage margin going to retailers has increased relative to the growers share, that apples are being used to subsidize sales of bananas, and that the produce department in total was contributing a disproportionate share of the retail profits, compared with items such as meat and dry groceries. Concern was also expressed over the "stickiness" of retail prices in response to price shifts at shipping point and the bargaining ability and power of retailers when dealing with the apple industry. There apparently was considerable resentment, mistrust, and lack of information regarding retailing throughout the apple industry.

Poor grower-processor relations exist in some production areas. While it is difficult to pinpoint the reasons for mistrust, the problem of low prices, large buyers versus small sellers, and the negative attitude of a few firms has made for poor working relationships. In addition, processors have been reluctant to pack more than their expected market needs after being left with a burdensome carryover as a result of the 1969 crop.

#### Recommendations

1. Many growers, packers, cooperatives, and sales agencies are considering consolidating into more viable units as a means of stabilizing market fluctuations and equalizing the bargaining position of sellers and buyers. The USDA and colleges should be ready to provide advice and counsel on the benefits and drawbacks of consolidation. This can be done through Farmer Cooperative Service(FCS), Extension Service (ES), and State extension programs.

2. Growers and shippers on occasion need to take advantage of provisions of the Perishable Agricultural Commodities Act to demand faster payment for apples where problems are encountered. PACA personnel can help by providing assistance in acting on claims and violations.

3. The USDA through the Economic Research Service (ERS) should expand its current data series and provide specialized margins information on apples on a regular basis (every 3 to 5 years, with more frequent release of data on an annual basis to industry organizations. See discussion of information systems). This should include a more detailed breakdown of prices and margins at intermediate levels of the marketing channels. This will require, and the team recommends that special studies be periodically undertaken of marketing channels, practices, and costs from the tree through the retail level. In addition, studies of market structure and organization should also be made.

4. Studies should be made of the "price structure" or pricing relationships between markets (shipping point, wholesale terminal, and retail) within and between seasons, and between varieties, grades, sizes, packages, and end-users. Emphasis should be on how the prices of apples are determined and what degree they reflect the true "economic costs" of the various alternatives available. Either the USDA through ERS or other appropriate agencies or the land grant colleges could provide the necessary inputs.

5. There is a need for the USDA through FCS, ES, and State extension programs to assist apple growers and processors in their efforts to improve pricing arrangements. The team also recommends the development of properly financed and managed cooperatives, the development of joint ventures to the mutual benefit of both growers and processors, and the use of long-term mutual participation contracts. If and when legislation such as the Sisk Bill becomes law, we would urge growers to take advantage of the bill and to form bargaining associations.

6. Better lines of communications between growers and processors are needed and should be developed at every opportunity. Processors should be encouraged to join and participate in the activities and programs of organizations working for the general benefit of the apple industry.

## Packaging

### Problem

Apple packaging requires large inputs of materials and labor; does not adequately meet marketing requirements; does not provide adequate protection; and does not facilitate efficient handling during packing and in distribution to warehouse facilities and end-users. The industry believes that the 3- and 4-pound bags help to merchandise the smaller apples but that the poor quality of the fruit sold in these bags is turning customers away from apples. Shipping containers used to ship polyethylene bag consumer packages were criticized as inadequate by growers, packers, shippers, and buyers from all production and all metropolitan areas. Wholesalers and supermarket receivers complained that, because apple boxes were not clearly and properly marked, mistakes were common during the order-selecting and retail-store delivery processes, causing delays in marketing and increasing handling costs. Apple shipping containers are still handled individually six to 20 times during marketing. These multiple handlings increase costs of handling, delay delivery to the ultimate consumer, and result in mechanical injury to the apples.



Current packaging falls short of meeting market requirements in several important ways. First, consumer packages and shipping containers have not been designed to take advantage of merchandising procedures that would increase opportunities for impulse purchases in retail stores. Second, there are no packages (or concomitant marketing strategies) for selling apples to the burgeoning away-from-home-eating market. Third, consideration should be given to the need for reducing package solid waste. Apple packaging contributes about 1 pound of waste material for every 10 pounds of fresh apples marketed.

### Recommendations

1. Immediate action is needed to improve the performance of polyethylene bag consumer packages and their shipping containers. This job can be done most quickly by developing, and testing improved versions of the polyethylene bag package, including substitute semirigid or rigid consumer packages for medium-size apples; and through demonstration and by distribution of instructions and visual aids to provide growers with specifications for recommended packaging materials and methods for improved packing of shipping containers and consumer packages (ARS, ERS, and ES).
2. Research should also be quickly expanded to develop and test materials that are currently available to enable shippers to unitize shipping containers at the lowest possible cost; and to develop and test low-cost packaging concepts such as adaptations of the "tight-fill" packing method or pallet boxes for shipping loose or bagged apples (ARS).
3. Establish a team of ARS research, ES, and Cooperative State Extension Service workers to quickly develop, prepare, and distribute educational materials, training programs, and visual aids that can be used by wholesalers, retailers, restaurants, and institutions to train workers to properly handle, store, display, and prepare loose and consumer-packaged apples.
4. Increased efforts are necessary to develop, test, and adopt improved packaging that considers the total marketing system, is standardized, can be accomplished mechanically, requires less materials, reduces repackaging during marketing, and protects the apple during distribution. (ARS and ERS.)
5. Apple growers, shippers, and packers should improve the way apples are handled in the distribution system by labeling all consumer packages and shipping containers with clear and concise instructions for good handling and storage practices and adopting uniform, legible industry shipping container marking such as that recommended by the Container Committee of the Produce Marketing Association.
6. Apple growers through their industry organizations should establish Packaging Committees to: set minimum performance standards for shipping containers and to evaluate experimental containers; reduce the number of apple sizes packed; standardize shipping containers; and encourage grower-packers to improve their packaging, handling, and truck- or car-loading by using the most efficient and best methods and materials that are available.

Problem

With the exception of the Northwest, (Oregon, Washington, and Idaho) the apple industry uses nonregulated motor carriers or private haulers to move fresh apples to market. The Northwest apple industry ships about 25 percent of its fresh apples in railcars. Truck transportation for fresh apples appears to be generally satisfactory for nearby shipments of 300 miles, or less from the shipping point. As distances increase, complaints about mechanical failures also increase. A number of shippers and receivers cited problems with inadequate air circulation in the loads, thermostat and other failures that resulted in product freezing or high temperature damage, shipping container failure, and abnormal bruising of apples loaded over the rear axles. Another problem frequently cited was the lack of standardization of inside dimensions of highway trailers (some inside widths were too narrow to accommodate 48- by 40-inch pallets efficiently.)

Recommendations

1. The USDA through ARS and other appropriate public and private agencies, should:

a.) Develop and recommend preloading inspection procedures for mechanical refrigerator trucks and railcars to insure that the controls and refrigerating equipment are operating properly prior to loading.

b.) Develop and recommend loading patterns for commonly used shipping containers loaded in highway trailers and railcars to minimize shipping container failure and mechanical injury to the apples, and to provide for adequate circulation of refrigeration air:

c.) Develop methods, techniques, and materials to reduce the width of highway trailer sidewalls to 2-3 inches instead of 3 to 4 inches so as to increase available loading space and permit the loading of 20 48- by 40- inch pallets instead of only 18 pallets;

d.) Develop improved air circulation systems and other improvements in refrigerator cars and trucks to reduce freezing and overheating; and

e.) Develop ways of reducing the magnitude and number of shocks transmitted to fruit during rail and truck shipment.

2. The apple industry and the railroad industry should establish working committees whose objectives would be to increase communication between the two groups, identify those areas where interests coincide, eliminate or modify the "adversary" attitudes that now exist, and

a.) Explore the possibility of developing "fast trains" to large metropolitan markets or other improvements as a means of obtaining better and faster service;

b.) Develop a realistic freight rate structure that would result in increased total revenue and profits;

c.) Identify service problems and help the railroads develop ways to improve service; and

d.) Develop a realistic program and time schedule for phasing out ice bunker car service.

### Market Information Systems

Improvements are needed in USDA market information systems. Highest priority should be placed on AMS shipments data; ERS margins; and SRS tree census, objective crop estimates, apple price statistics, and storage data.

### Recommendations

1. That AMS, through the Federal-State Market News Service,

a.) Extend daily coverage of rail and truck shipments of fresh apples to all major production areas and consider the possibility of including information on varieties and sizes of apples shipped, in addition to volume data;

b.) Consider the feasibility of establishing a daily New York-New England apple report in cooperation with State agencies and members of the apple industry;

c.) Develop coverage of daily or weekly movements of apples to processors;

d.) Report current data on fresh apple shipments for export; and

e.) Collect weekly or monthly f.o.b. shipping point price information on applesauce, canned and frozen slices, and apple juice.

2. That ERS

a.) Expand its current series and provide specialized margins information on apples on a regular basis (see the section on pricing);

b.) Contract with the Bureau of Labor Statistics (BLS) to collect data on retail prices of Delicious apples for the Market Basket series;

c.) Contract with BLS to collect data on retail prices of applesauce in additional cities and extend coverage to apple juice; and

d.) Review the reliability and representativeness of auction price statistics used in computing margins.

3. That SRS

a.) Strengthen its apple crop estimates by moving from a subjective to an objective survey;



- b.) Thoroughly review its monthly and annual average price statistics and attempt to unscramble data pertaining to f.o.b. shipping point versus "farm level";
  - c.) Confer with the International Apple Institute and see if a mutual program of reporting storage information can be worked out to the satisfaction of both parties;
  - d.) Report acreages of apples and estimate the number of bearing trees annually;
  - e.) Include the State of Georgia in its apple crop estimates; and
  - f.) Publish a more detailed set of utilization statistics from the processing sector i.e., canned--sauce, slices, baby food and other.
4. That the USDA request varietal detail on apples in the 1974 Census of Agriculture.

### Extension

#### Problem

There is a need for the Extension Service to organize personnel in the field to expand work on marketing education programs for the apple industry. Several recommendations in this study include concentration on educational programs with apple producers, fresh market packers, processors, and retailers. These include areas of labor and financial management, planting and tree removal, improvement in quality from initial production through marketing channels, and analysis of marketing alternatives and methods.

#### Recommendations

USDA Extension Service personnel in conjunction with the Cooperative State Extension Service should provide the leadership to develop teams of Federal, State, and industry personnel to set educational goals and assign responsibility to prepare and present materials for a coordinated industrywide educational program on marketing. In addition the USDA Extension Service and some State Extension Services should increase the number of fruit marketing specialists. Many States have no extension personnel working on apple marketing. The use of regional fruit marketing specialists should be considered.

### Coordination of Economic Research

#### Problem

Economic research efforts in the USDA and the State Agricultural Experiment Stations lack coordination and complementarity on the key longrun problems of the apple industry.

One of the key problems is the lack of coordination between research locations and the absence of interdisciplinary approaches within locations. Apple research efforts need greater coordination to achieve maximum benefits per limited dollar expended.

### Recommendations

Some of economic research activities that need coordination include:

- a.) Regional analysis of production costs and efficiency.
- b.) Regional harvesting, storage, packing, processing, and distribution cost and efficiency studies.
- c.) National and regional analysis of expected returns, market requirements, and demand.
- d.) A study on supply response in the apple industry. How rapidly and to what extent do growers respond to higher prices?

The USDA, through CSRS, ERS, ARS, and other agencies, in conjunction with the colleges and universities, should provide leadership and financial support toward improving current economic research on apples. A considerable volume of high quality research is currently available or in progress. The need is to coordinate efforts nationally rather than regionally or limiting a study to a single State.

## Introduction

Grower prices are based on the supply of apples available and on the demand for apples at the farm level. Demand at the farm level is directly related to the demands of consumers for fresh apples and processed apple products. Therefore, it is extremely important to growers that every effort be made to expand the demand for apples. This section considers the possibilities for market expansion in four areas: Consumer needs and promotion, new apple products, improved Government purchase programs, and roadside marketing.

## Consumer Research, Market Expansion, Promotion

Problem

A successful promotion program requires a consistent, good quality product attractively merchandised at a reasonably competitive price. These essential ingredients are sometimes lacking in the marketing of fresh apples at the retail level. Equally vital for success is the need for a promotion program based on sound market research. The latter is rarely present in current apple promotion efforts. Another weakness of these efforts is their fragmented approach. Many of the promotional efforts are conceived and carried out by State or regional groups apparently without integrated strategy or programs. Funding is a perennial problem with all agricultural promotion programs. However, the funding for apple promotion appears to be particularly inadequate in comparison with successful programs, such as those for dairy products.

While a fairly sizable number of apple industry people spoke in favor of stronger, better conceived, and better financed regional and national promotion programs, the prevailing attitude seemed to favor a locally controlled and planned grassroots program. A major drawback of State programs is that many States do not participate fully in promotion programs.

The household market represents the volume market for fresh and processed apples and apple products. Yet, there was general agreement that promotional efforts were guided by "seat-of-the-pants" observations rather than scientific study. Serious questions were raised on "Why must apples be red?", "Why consumers don't buy apples?", or "What do consumers want in apples?"

In all fairness, much good work has been done in promoting fresh apples. Yet, these efforts have fallen short for the most part because (1) they pit regional apples against regional apples rather than focus on the customer; and (2) fundings of apple promotional activities are not inadequate for an effective market expansion program.

The apple industry has barely scratched the surface of potential demand for apples in the away-from-home market. The significance of this market is apparent when compared with the value of all food consumed. The retail value



of food moving through foodservice outlets was about 1 of every 3 food dollars. Compared to many other food products, apples and apple products do not have the above market share.

### Recommendations

It is recommended that an indepth appraisal be made of (a) consumer requirements for apples and apple products in the household market; and (b) hotel, restaurant, and institutional requirements of the away-from-home market. Emphasis should be placed on determining the desired characteristics of fresh apples, market potentials for apple juice, and the present and future product forms needed by the away-from-home market. This could be accomplished by the USDA through the Economic Research Service (ERS) in cooperation with the Statistical Reporting Service (SRS) and other appropriate agencies; it could be undertaken by State and college personnel; or it could be done by utilizing the field representatives of the various industry promotion organizations, or any combination of the above.

### Market Potentials--New Apple Products

### Problem

New product development can be an important way of expanding market demand especially for apples. The crux of the problem is whether the apple industry, as presently constituted, has the financial and technical capability to move ahead successfully in this area.

It became obvious from the regional meetings that efforts in new product development are both fragmented and under-financed. The problem appears to be compounded by a lack of coordination in planning and execution by the industry itself and by USDA and State researchers. There was general agreement that many apple processing firms were too small to be effective in new product development and introduction. Several suggestions were made for joint-venture enterprises between apple growers and an existing large food manufacturer for the purpose of generating a financial base for, among other things, a new product development program.

### Recommendations

1. The fresh and processed segments of the apple industry should form a planning committee to determine the feasibility of joint ventures of grower groups and processors, indepth market research for the development of a more comprehensive marketing strategy for processed apple products, and joint research and development ventures with USDA regional laboratories.

2. It is recommended that an apple product review group should be established to evaluate and explore the feasibility of joint action in developing and commercializing new apple products. Membership would consist of representatives from the USDA (ERS, SRS, and ARS), the land-grant colleges and other universities, and the apple industry.

## Problem

The timing of USDA apple and apple product purchase programs may not be meeting grower needs. The strong feeling was that USDA programs help the processor, the shipper, or storage operator more than the grower. Main aspects of Government purchase programs touched upon at the regional meetings were timing, buying procedures, and quality. The timing aspect had several dimensions--one concerned the need for an early announcement by USDA as to "intention to purchase." The other dimension concerns the timing of actual purchases.

USDA purchase procedures (as well as military) requiring bids for processed apple products were strongly criticised by growers for creating lower than cost-of-production returns to growers. Growers suggested that no bids be allowed below cost of production.

Another criticism of the USDA fresh apple program was the grade and quality of apples purchased. The USDA purchases fresh apples on a U.S. No. 1 grade basis for school lunch and needy persons programs. According to many in the industry, this grade should not be used since they are not considered high enough quality by the trade for the consumer market.

Poor timing of shipments, batching of deliveries, wrong varieties and poor quality problems were cited as major problems in acceptance of apples in the school lunch program. Handling difficulties, lack of storage facilities, and other distribution problems in the school system also were cited.

## Recommendations

1. The team recommends early announcement dates on offers to purchase fresh apples and processed apple products under Section 6 (school lunch) and Section 32 (child nutrition and needy persons programs).
2. There is a need to take a systematic look at the present distribution of fresh fruit under school lunch and needy persons programs. Emphasis should be placed on determining the adequacy of the system for handling, storing, and maintaining the quality of fruit both in the distribution system and at the local school. These programs are handled primarily by FNS.
3. A special program be set up by the apple industry to insure the best possible use of USDA and commercial fresh and processed apple purchases for the school lunch program by (1) having field representatives work with school district agents within States on timing of shipments, proper handling and storage practices, etc.; and (2) working with schools at the local level to encourage them to buy fresh apples and processed apple products.

## Farm Marketing Through Roadside and Pick-Your-Own Operations

### Problem

Additional education programs and materials are needed to aid direct marketers such as roadside stands and pick-your-own operations.

Apple producers in several Northeastern and Midwestern States can probably expand direct sales to consumers through roadside farm markets and "pick-your-own" type operations. Although the potential for significant apples sales expansion through direct-to-consumer farm marketing may be limited, it appears to be a sales outlet with potential for many small and medium-size farm operations located near metropolitan areas. It is estimated that 10 to 15 percent of the present U.S. apple crop for fresh market is sold direct to the consumer through these two types of marketing outlets.

### Recommendation

It is recommended that the USDA, through the Extension Service, cooperate with State efforts to provide "guideline" materials. Support should also be given to well-developed programs to aid State extension specialists in working with direct marketers.



## The Export Situation for U.S. Apples

Problem

Prior to World War II, the United States was the world's leading exporter of dessert apples. Today, the situation is completely different. The United States now ranks 16th in the order of world exporters. Instead of an annual average of 10 million bushels in the 1930's, U.S. exports of apples have averaged slightly over 2 million bushels in recent years. Most of this decline can be attributed to a market increase in competition in offshore markets, particularly in Western Europe.

One country in particular has dominated the European production and marketing scene--France. During the 4 most recent years (1968-71), its crop averaged 90 million bushels--nearly a fourfold gain over the latter half of the 1950's. In 1970-71, France moved 25.7 million bushels into export--representing nearly 30 percent of its crop.

Because of its location, France has been able to penetrate the European market with almost unrelenting momentum during the fall and winter months. This, in turn, has resulted in a sharp displacement of the traditional Northern Hemisphere suppliers to the European market, such as the United States and Canada. France also has been able to penetrate the Latin American market, particularly Brazil and Venezuela.

Although U.S. exports have seldom achieved even 5 percent of the national crop over the past several decades, they have nevertheless at times injected a needed healthy tone to the market in those areas participating in export. With the prospect of further increases in production in the immediate years ahead, the U.S. apple industry cannot afford to overlook any outlet. Exports are no exception.

Prospects for increasing trade to Europe to anywhere near the pre-1965 level are virtually nonexistent. At best, we can only hope to supply a limited volume of certain varieties which Europe does not produce or cannot produce well, such as the Red McIntosh and Yellow Newtowns. The entry of the United Kingdom into the European Community will only further an already intensive penetration on the part of France and Italy into the U.K. market--one of the few European markets in which we have managed to maintain a limited volume since 1965.

Looking to the north, Canada has already been an important market for U.S. apples. Trade between the two countries in fresh apples has been on a two-way basis for many years, with intermittent shortages dictating the direction of traffic. Opportunities to expand movement to this market beyond the volume of recent experience are virtually nonexistent, not only because Canada itself is a large apple producer but like the United States, it too is experiencing considerable difficulties in export.

At the moment, Latin America is about the only market area in the world that offers some export opportunities. The Far East could some day assume a more important role, but this will depend to a large extent upon Japan's removal of its embargo on apple imports because of the codling moth. Insofar as is known, the codling moth does not exist in Japan.

### Recommendations

Market Intelligence Team.--One of the very first tasks of the industry should be to assemble as much on-the-spot intelligence as is possible regarding the present and future potential of the Latin American or Far East markets for apples. To facilitate the implementation of this approach, the industry collectively should request the Foreign Agricultural Service to underwrite a project within the market development context aimed initially at the intelligence aspect.

A basic stipulation should be that the project team be headed by top notch talent from the industry. The scope of the initial investigation would be to identify the nature of our competition--what our competitors are doing to develop the market, their methods of selling and pricing, their distribution system, and what assists are being provided by the home government. Through this assemblage of facts, the U.S. apple industry would be in a much better position to judge what tools would be needed to effectively do the job in Latin America.

Organization for Export.--The U.S. apple industry is widely scattered among some 39 States. Grower operations in many instances are either too small or too distant from port facilities to justify an active interest in exports. Individually, they cannot do it alone. A number of other supplying countries--notably Australia, New Zealand and South Africa--have found that the export function, either wholly or in part, can be best handled on a collective basis.

A means by which the U.S. apple industry might strengthen its export position is provided by the Webb-Pomerene Export Trade Act of 1918. Basically, this law is designed to promote exports on a cooperative basis by permitting members of an industry--either regionally or nationally--to band together through the formation of an export association.

The functions permitted through an association are many. With the inherent ability to collectively command a larger volume, the industry would stand to improve its negotiating posture with respect to ocean freight rates and shipping space. Furthermore, it would provide an opportunity for the small grower to participate in export.

*Delivery to warm climates*

The Export Subsidy Issue.--One argument in favor of a subsidy is that it provides a direct means of "fighting fire with fire." The charge frequently has been leveled that the French are subsidizing their fruit exports to Latin America in one form or another. If such is actually the case, then the adoption of a subsidy of our own would place us on a more or less equal footing competitively in Latin America.

The industry might be well advised to pursue the subsidy issue with caution. The reasons for our declining role of lack of participation in the Latin American market appear to be based more on hearsay evidence rather than on a careful objective analysis of facts. Attempts thus far to uncover the actual existence of a French subsidy have been futile.

An argument against employing a subsidy is that it would not be consistent in dealing with the import problem currently facing us on both fresh apples and concentrated apple juice where the possibility of some form of assistance may be used by the exporting country. Hence, there is a lack of consistency in our policy. On one hand, we advocate a subsidy on exports; on the other we abhor the subsidy on imports.

It is suggested, therefore, that before the industry pursues the active employment of a subsidy, it should first seek to get the facts, explore the alternatives, and then make an appraisal as to what it would cost to do an effective job in Latin America.

Removal of Foreign Trade Barriers.--The industry should, through a central organization, continue to press the U.S. Government to intensify its efforts toward the removal of illegal trade barriers which exist today in many parts of the world.

With the distinct possibility of a readjustment in European output, the absence of trade barriers, if and when such a readjustment occurs, would facilitate again our participation in that market area, or at the very least, it might have the indirect effect of removing the pressures on the French pursuit of markets beyond the European frontier.

Research.--The industry should seek to have governmental funds and manpower directed to the eradication of the codling moth, the key obstacle to access to the Japanese market at the present time.

In addition, the industry should seek to direct more research toward improvements in the distribution of U.S. fruit to tropical or semi-tropical markets. This would encompass the development of more efficient and functional packaging, handling, and transport systems.



## Imports of Fresh Apples and Apple Juice

### Problem

In the import sector, problems have arisen on fresh apples and concentrated apple juice. Imports of both have increased considerably in recent years. There is evidence in some supplying countries and suspicion in others that assistance is being provided by the local governments to facilitate exports of these items to the United States. The situation for each commodity is outlined below.

Fresh Apples.--Until recently, most of the fresh apples imported into the United States originated in Canada. Beginning in about 1968, however, a number of the apple-producing countries of the Southern Hemisphere--plagued by the increasing uncertainties of their once lucrative European market--began to show an active interest in the North American market. Moderate gains have since been posted in each successive year.

Thus far, Australia, New Zealand, and to a lesser extent, South Africa have been the principal Southern Hemisphere suppliers to the U.S. market. Such imports generally begin in about March or April and continue in heavy volume through the early summer, at a time at which our own apples are normally undergoing their peak movement from controlled-atmosphere storage and are also enjoying their best market from the standpoint of price. A portion of the Southern Hemisphere supplies also coincide with the early marketings of summer apples.

In 1971, Australia launched a new marketing plan--known as the Apple and Pear Stabilization Scheme--for "risk" fruit moving into export, which, in effect, appears to be a subsidy. Under this scheme, a support price is established, by varieties, for fruit shipped on a risk basis, i.e., shipments on consignment, for sales afloat, or on consignment against a guaranteed advance. If the season average returns for a given variety fall below its support price, a payment is to be made from a stabilization fund.

A determination as to whether payments are to be made from the fund cannot, of course, be made until the entire shipping season has concluded. Thus, it will be a determination "after the fact." In the meantime, the damage has been done.

Normally, in the case of foreign subsidies, a U.S. industry could seek to impose countervailing duties on the imported item under Section 303 of the Tariff Act of 1930. The tomato canners in California, for example, have been successful in employing the provisions of this statute on three occasions (imports from Italy, France, and Greece). The law requires that the imported item must be a dutiable one. The U.S. import duty for fresh apples (as well as apple juice) was reduced to a zero status during the Kennedy Round negotiations. Hence, apples (and apple juice) are not eligible for relief under this statute.

Concentrated Apple Juice.--Imports of juice into this country have risen dramatically in recent years. During the 1970-71 season (July-June), imports reached an all-time high of 27 million gallons (expressed on a natural juice equivalent). This marked an eight-fold increase over the volume of only five seasons earlier. It is already an accomplished fact that imports during 1971-72 will set another new record.

The momentum in import activity stems in large measure from the sharply increasing popularity of a relatively new product, apple wine. A recent review of the import manifests revealed that a very high proportion of the imports was being directed to domestic wineries. The production of apple juice for the retail market has also shown a marked increase over the past years. Three countries accounted for 80 percent of the imports in 1970-71--namely, Switzerland, France, and Argentina.

When the demand from California wineries for apple concentrate suddenly emerged, foreign supplies were there to meet this demand at an attractively low price--a price that would reflect little in the way of a return to our growers.

The extremely low prices prevailing for imported concentrate in early 1971 prompted the suspicion that some form of assistance was being extended to the local apple industries of the supplying countries. On the basis of preliminary investigations, it was clearly evident that Switzerland, the No. 1 supplier to the U.S. market for the past three seasons, was employing a support mechanism which at the time permitted the export price to be well below that on the domestic market. The Swiss action was then a clear violation of one of our laws, known as the Anti-Dumping Act of 1921. In this instance, an affected industry can petition the Treasury Department to investigate the possibility of "dumping" (i.e., exporting a commodity at a price less than its fair value). If the Treasury investigation substantiates the industry's allegation, the case is then referred to the U.S. Tariff Commission for determination of injury or the likelihood of injury. If a finding is made in favor of the domestic industry, a special duty, equal to the amount of the dumping, can be assessed on the imported product from the offending country.

The domestic industry, through the International Apple Institute, explored to considerable length the possibility of filing a request for an anti-dumping action. However, the consensus was that as soon as Switzerland learned of such a petition, it would quickly equate its domestic price to that in export. Furthermore, if the U.S. industry was successful in effecting a special dumping action on imports from Switzerland, the decline in this instance would likely be offset by increased export activity on the part of other foreign suppliers.

In the meantime, the market price for imported concentrate in the United States rose appreciably and is now at a level which would virtually preclude the attainment of relief through the anti-dumping route.

Although reports indicate fragmentary evidence of assistance measures in a few countries other than Switzerland, the findings are not yet sufficiently definitive.

## Recommendations

The following suggestions are offered for the industry's consideration in dealing with the import problem.

Legislative Needs.--Specifically, two general approaches are recommended in the area of legislative needs. The first would involve seeking amendments to existing legislation; and the second, seeking legislation designed to be more responsive to the type of problems now facing not only the apple industry but other horticultural groups.

### Amendments to Existing Legislation

1. Section 303 of the Tariff Act of 1930, as amended, provides for the imposition of a countervailing duty on any dutiable imports that are subject to an export bounty or grant. An amendment should be sought to provide for the deletion of the requirement that the imported article be a dutiable one.

The justification for such an amendment is that the present law is discriminatory between dutiable and nondutiable items. Fresh apples and concentrated apple juice, for which the duty rates were reduced to a zero status during the Kennedy Round negotiations, are thus precluded from Section 303 procedures. Although the rates prevailing prior to the Kennedy Round were minimal, their retention nevertheless would have made these items eligible.

2. The Anti-Dumping Act of 1921 permits an industry to petition the Secretary of the Treasury for a "dumping" investigation whenever the industry has evidence to the effect that foreign merchandise is being imported into the United States at less than its fair value. Should the investigation confirm the industry's charge, the case is then referred to the Tariff Commission for a determination of injury or the threat thereof.

Although the Tariff Commission is required to reach a verdict within 90 days following the Secretary of Treasury's findings, the Treasury Department is under no such time limitation. In fact, some of the investigations made by the Treasury have embraced an unduly long period of time. When relief is finally provided it is often too late to be of any use. It is, therefore, recommended that the industry seek an amendment to the Anti-Dumping Act of 1921 to limit Treasury's investigation to a specific time period.

3. The industry should seek a conceptual change in Section 301 of the Trade Expansion Act of 1962 (the so-called "escape clause" provisions) by deleting or modifying the requirements for a Tariff Commission finding that the injury resulting from the increased imports is, in major part, a result of a trade agreement concession. In most instances, the reason for increased imports can be ascribed to factors other than the trade agreement concession itself. Thus, with more obvious forces at play, it has been a rarity for the petitioning industry to gain import relief through this route.



## New Legislation

The apple industry, **in concert** with other horticultural industries, should seek legislation that is more responsive to the existence of a threat from foreign imports. Virtually all of the Federal statutes providing import relief require--either in the act itself or through administrative interpretation--a finding of injury, which is more or less a "postmortem" approach. Administrative interpretation has almost consistently refused to accept a threat as a decisive determinate for relief.

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